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ABSTRACT

Curriculum management can be defined as an orderly, ongoing process of review and evaluation of the entire curriculum. It controls for unnecessary course duplication and overlap by holding each course accountable to both fiscal and content criteria. Presently, most college curricula are not being controlled by effective systematic evaluation. The major problem, course proliferation, is discussed in relation to new knowledge, faculty interests, student pressure, and outside pressure. Fiscal effects are discussed, and suggestions for reform are presented. (Author/MJM)

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Curriculum Management

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The Necessity for Curriculum Management

Curriculum management can be defined as an orderly, ongoing process of review and evaluation of the entire curriculum. It controls for unnecessary course duplication and overlap by holding each course accountable to both fiscal and content criteria. Presently, most college curricula are not being controlled by effective systematic evaluation. In a recent bibliographic study by Richardson (1971), he states:

> The literature has shown that present methods of curriculum review and control are inadequate. Extraneous pressures and irrelevant factors mitigate against a thoughtful orderly process. Institutions would be greatly assisted if some effective comprehensive review and control procedures could be developed....

An uncontrolled curriculum lead inevitably to unnecessary expenditures. As reported by Centra (1965), the Commission on Financing Higher Education has described the curriculum as the "greatest extravagance in almost every type of institution." Course proliferation, which promotes unnecessary course overlap and duplication, is the major source that contributes to this financial waste. Mayhew (1970) has labeled proliferation as the single greatest curriculum problem that confronts administrators today. In order to control spending effectively,

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administrators must initiate better curriculum management than they have in the past.

In addition to the fiscal waste that proliferation promotes, it also affects the quality of education. Proliferation promotes scheduling conflicts, a disruption in the sequence of student courses (Dressel, 1968), and too much early specialization (McGrath, 1965). Clearly, it can be seen that methods are needed to manage the integration of new courses into, and the deletion of old courses from, the curriculum to maintain balance.

The Problem: Course Proliferation

Major Causes

In a review of "curriculum construction and planning," Mayhew (1970) identified the major sources which stimulate proliferation of courses. Some of the most important are mentioned here to give the reader a better understanding of the problem.

New knowledge. The amount of new information has expanded fantastically in recent years. Education is confronted with how to integrate this new material into the curriculum. Usually, it has been accomplished by new courses added to an already enormous curriculum.

Faculty interests. Intra- and interdepartmental competition for prestige often stimulate faculty members and departments to propose new courses to enhance the reputation

of the department or of an individual.

Student pressure. The cry for relevance has instigated many new course offerings. A more reasonable alternative would have been to revise old courses to make them more meaningful to today's youth.

Outside pressure. Groups outside the university proper exert considerable influence on course offerings. State certification and accreditation agencies are just two examples.

The results of these influences are that (1) courses increase without rationale; (2) courses are often added or proposed even when resources are inadequate or unavailable; (3) courses are "added without sufficient information or evaluation" which leads to duplication and overlap (Dressel, 1968). Centra (1965) states that the

> ...Tendency always seems to be to expand, add more courses, more programs, more departments rather than re-vitalize, reconsider objectives, and cut out dead wood.

Fiscal Effects

Dressel (1968) has pointed out that course proliferation has dynamic consequences on faculty teaching load and salary. The following equation, formulated by Dressel, illustrates the relationships between several variables including teaching load and salary:

$$S = \frac{B}{T} = \frac{BCL}{KN}$$

S = mean faculty salary on a 12 month basis

B = total instructional budget

C = mean class size

L = mean instructor load, i.e., the number of classes taught per year

T = total number of faculty

N = head count enrollment

K = mean student load, i.e., the number of classes taken per year

If one assumes that B, N, and K will remain constant, then proliferation will lead to smaller class size ("C"). What naturally follows is either a decrease in faculty salary or an increase in faculty teaching load.

The data* in diagram 1 and diagram 2 illustrate this point. Diagram 1 demonstrates the effects of course expansion on the mean faculty salary. When the mean class size drops from 18 to 17 students per classroom, the mean

*The values used in the accompanying diagrams for instructional budget, number of faculty, and all other variables are listed in parentheses in the legend for each diagram. Some values were not included in the actual diagrams in order to emphasize the most pertinent points and to avoid confusion. However, computations were performed using all values and the results given are factual. In an attempt to construct as realistic an example as possible, the values of the variables were modeled after the University of Georgia but are not truly representative. The mean faculty salary used is the average associate professor's salary for 1,224 American institutions with professional ranks as reported by Jacobsen (1972).

faculty salary of $15,969.00 is reduced by $882.00 yearly.

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insert diagram 1 about here

To compensate for this loss in income, each faculty member would have to incur an additional teaching load of 2.5 quarter hours during the twelve month period (Diagram 2).

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insert diagram 2 about here

In an attempt to simplify what has been said, suffice it to say that as class size declines, instructional cost becomes more expensive. Mayhew (1970) reports that a large class, such as history, may cost as little as $6 to $8 per student credit hour, (cost based solely on the amount paid to an instructor to conduct the course) whereas a music course may cost as much as $250 to $300 per student credit hour. The implication is clear: colleges cannot continue to increase staff salaries and add new personnel as long as proliferation remains unchecked (Dressel, 1965). In addition, departmental budgets will be spread so thin that needed instructional materials and equipment will become increasingly difficult to afford.

Effects on Student and Instruction

So far, the paper has focused on the fiscal effects that are caused by poor curriculum management. The student and his education are also adversely affected. It has already been mentioned that instructional materials and euqipment that are pertinent to courses may become rare luxuries because of the thinly spread departmental budgets. In addition, the student is faced with other problems. One major effect of proliferation is the amount of duplication and overlap of course content that a student encounters. For example, in a study at Michigan State (Centra, 1965) comparing textbooks required for courses, it was found that one text was sometimes required for four or five different courses in the same department! Dressel (1968) points out that duplication of courses allows students to acquire easy credits because:

> Few institutions will deny a student credit for two similar or even identical courses because such a denial is an admission of duplication.

As duplication increases, the quality and value of one's education will decrease. This realization, more than any other, should stimulate institutions to action.

The last problem that will be mentioned here is inefficient and misleading catalogues. Mayhew (1970) states that catalogues list program claims which are not always factual, contain misleading course descriptions, and often include

courses that are not taught or those taught only in alternate years. In a survey of catalogue listings, Centra (1965) found course offerings which had not been taught in 10 years. The reason for this confusion is not purposefully to mislead students, but is because of the lack of curriculum management. When course offerings expand without any systematic control, then the catalogue will reflect this inefficiency.

Suggestions for Reform

Few have addressed themselves in the literature to suggest practical procedures for controlling curriculum. Those that have been concerned with this topic have spoken in generalities, with the exception of Dressel (1968) and Richardson (1971). Some of the most pertinent suggestions are given here. McGrath (1963) proposed a "balanced relationship between departmental offerings and class size." Mayhew (1963) suggests that a close relationship be kept between number of courses offered and number needed. Richardson (1971) maintains that new knowledge must be incorporated into the existing course structure and outdated material deleted or revised. Also, he supports each department's right to review course proposals by other departments.

By far, the most detailed proposal for curriculum control has been made by Dressel (1968). It is based on the following four principles: (1) content within each course must be

accurately defined and all required resources (along with those available) must be specified; (2) each course proposal must be compared to all related courses in the university by both those proposing the course and other departments; (3) an estimated enrollment and the category of student to whom the course is directed must be given; (4) all fiscal implications must be identified.

As of this date, it is unknown whether or not institutions have adopted any of the aforementioned curriculum management principles. The literature does not contain any detailed description of institutions implementing and evaluating these techniques. The study by Centra (1965) does describe techniques of identifying course duplication and overlap. However, it does not mention any ongoing review process that enables an institution to avoid the search for duplications.

It is the author's opinion that many institutions are dealing with this problem effectively by some curriculum management program. Certainly, there exist many different levels of proficiency at different points on the curriculum management continuum. Unless successful methods of curriculum management are publicized and made available to administrators in higher education, curriculum managers will be unable to profit by prior efforts in the field. It is time that curriculum administrators admit that control is a problem and begin

to work together to devise systems to remedy this dilemma. Until a concerted effort is initiated by curriculum managers in higher education to upgrade the curriculum control process, curriculum will continue to expand without reason or fiscal responsibility.

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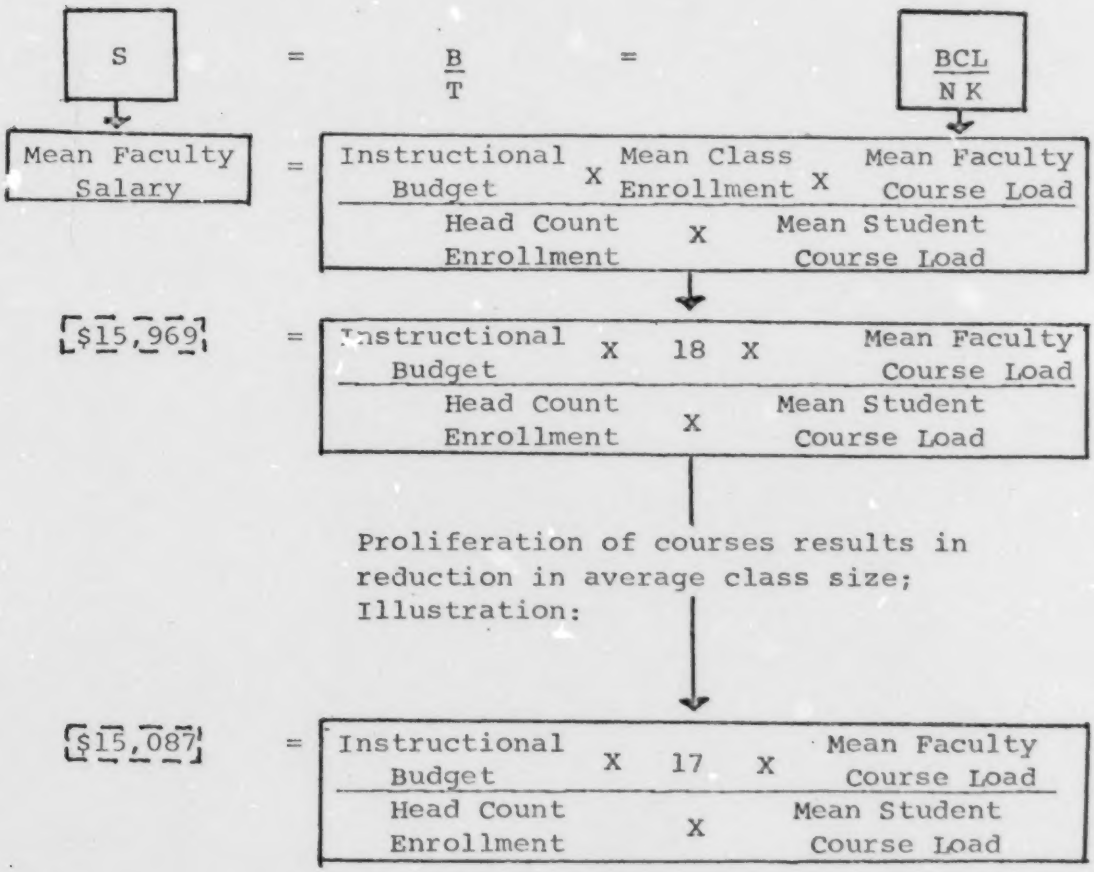
S = mean faculty salary on a 12-month basis ($15,969)
T = total number of faculty (1,252)
B = total instructional budget ($20,000,000)
C = mean class size (18)
L = mean instructor load, i.e., the number of 5-hour classes taught per year (8)
K = mean student load, i.e., the number of 5-hour classes taken per year (10)
N = head count enrollment (18,035)


S = B/T = BCL/NK
Mean Faculty Salary = Instructional Budget X Mean Class Enrollment X Mean Faculty Course Load / Head Count Enrollment X Mean Student Course Load
$15,969 = Instructional Budget X 18 X Mean Faculty Course Load / Head Count Enrollment X Mean Student Course Load
Proliferation of courses results in reduction in average class size; Illustration:
$15,087 = Instructional Budget X 17 X Mean Faculty Course Load / Head Count Enrollment X Mean Student Course Load

A REDUCTION OF $882.00 A YEAR

Diagram 1. Faculty salary as affected by course proliferation.

S = mean faculty salary on a 12-month basis ($15,969)
T = total number of faculty (1,252)
B = total instructional budget ($20,000,000)
C = mean class size (18)
L = mean instructor load, i.e., the number of 5-hour classes taught per year (8)
K = mean student load, i.e., the number of 5-hour classes taken per year (10)
N = head count enrollment (18,035)

$$S = \frac{B}{T} = \frac{BCL}{NK}$$

$$\text{Mean Faculty Salary} = \frac{\text{Instructional Budget} \times \text{Mean Class Enrollment} \times \text{Mean Faculty Course Load}}{\text{Head Count Enrollment} \times \text{Mean Student Course Load}}$$

To offset the effects of proliferation, an increase in faculty load is necessary (assuming all variables except class size remain constant).

$$\text{Mean Faculty Salary} = \frac{\text{Instructional Budget} \times 17 \times 8.5}{\text{Head Count Enrollment} \times \text{Mean Student Load}}$$

← Mean Faculty Teaching Load was 8 Courses when Mean Class Size was equal to 18

Mean Faculty Salary = $15,969 ← Mean Faculty Teaching Load would have to be increased 2.5 quarter hours annually to maintain this salary.

Diagram 2. Increasing teaching load to counter the effects of proliferation.